

General Conference Agenda

March 4th, 2003

1:00pm Vendor and Poster Set Up
1:00pm Optional ArcView Primer
5:00pm End of Day's Activities

March 5th, 2003

8:00am Doors Open
8:30am Welcome and Opening Remarks
9:00am Conference Introduction and Logistics
9:30am Software Overviews:

FIELDS
SADA
VSP
FORMS II Lite
STORET
Query Manager
ASAPs

12:00pm ***Lunch Break***
1:00pm User Seminar - Case Studies
5:00pm Icebreaker
6:30pm End of Day's Activities

March 6th, 2003

7:30am Doors Open
8:00am Software Training and/or Demonstrations
12:00pm ***Lunch Break***
1:00pm Software Training and/or Demonstrations
5:00pm End of Day's Activities

March 7th, 2003

7:30am Doors Open
8:00am Software Training and/or Demonstrations
12:00pm ***Lunch Break***
1:00pm Software Training and/or Demonstrations
5:00pm End of Day's Activities

Registration

<http://dts-32web.volpe.dot.gov/conference/fields.htm>

Location

Illinois Institute of Technology
Stuart Graduate School of Business
565 W Adams Street
Chicago, IL 60661



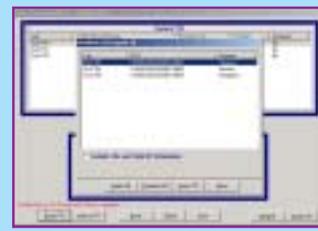
FORMS II Lite is a software application developed by EPA OERR's Analytical Operations/Data Quality Center (AOC) to assist samplers with generating their sample documentation. FORMS II Lite is a wizard-like Windows-based application used for generating bottle and tag labels; generating Chain of Custody (COC) forms; tracking samples from field to laboratory; facilitating electronic capture of sample information into databases; and exporting data electronically as .dbf or .txt files. Users can use the software to enter information associated with documenting sampling activities such as site and project; sampling team members; analyses to be performed; location, matrix, date and time collected; sample and tag numbers; laboratories receiving samples; and Sample shipments. More information about using FORMS II Lite may be found at <http://dyncsdao1.dyncorp.com/f2lite>.



FORMS II Lite enables users to document sampling events by entering information in steps.



FORMS II Lite provides users with a QuickView function that allows users to view data as they progress through the program and to track data entered during the sampling event. Users can sort, filter, and rearrange the columns to create a view that best fits their needs.



FORMS II Lite allows users to print the Chain of Custody forms and/or export the associated data to a file, once all data for a site has been recorded.



Query Manager is a database program, developed by NOAA's Office of Response and Restoration, that can be used to access sediment chemistry, sediment toxicity, and tissue chemistry data from the relational database for individual watersheds. Query manager uses its structured file system to organize data from multiple sources into a consistent, compatible form. Users can select from a menu of queries that sort and analyze the data in a variety of ways to produce output tables. The selected data can be immediately displayed on maps using MAPLOT (Mapping Application for Response, Planning, and Local Operational Tasks) and/or the output tables from the queries can be saved in a variety of formats for use with other mapping software (e.g., ArcView) or other applications (e.g., spreadsheets, statistic packages, word processors). Query manager also integrates several common Sediment Quality Guidelines (SQGs) that can be used as toxicological benchmarks to screen for potential ecological risks due to contaminated sediment exposure. Users may select among various SQGs to generate queries that contrast selected sediment data by various approaches. More information about Query manager can be found at <http://response.restoration.noaa.gov/>



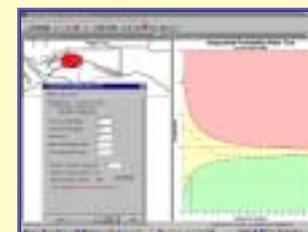
Visual Sample Plan (VSP) provides tools for defining an optimal, technically defensible sampling scheme for characterization or validation. VSP is applicable for any two-dimensional sampling plan including surface soil, building surfaces, water bodies, geophysical transects, or other similar applications. VSP is a highly interactive and visual tool tailored to the environmental professional who values cost effectiveness, simplicity, accuracy, and defensible methods. VSP helps the user select the right type, quality, and quantity of data required to support confident decisions and directly supports the implementation of the Data Quality Objectives (DQO) process. VSP is available free of charge and can be downloaded from <http://dgo.pnl.gov/vsp>.



VSP Sequential In-Field Sampling Results



Performance of Geophysical Meandering Sampling for UXO



VSP Quad View Showing Map, Report, Performance Graphic, and Sample Coordinates



STORET (short for STOrage and RETrieval) is the U.S. Environmental Protection Agency (EPA) largest computerized environmental management data system. STORET is a repository for water quality, biological, and physical data collected by federal, state and local agencies, Indian Tribes, volunteer groups, academics, and many others since 1999, along with older data that has been properly documented and migrated from the Legacy Data Center (LDC). Each sampling result in STORET is accompanied by information on where the sample was taken (latitude, longitude, state, county, Hydrologic Unit Code and a brief site identification); when the sample was gathered; the medium sampled (e.g., water, sediment, fish tissue); name of the organization that sponsored the monitoring; why the data was gathered; sampling and analytical methods used; the laboratory used to analyze the samples; the quality control checks used when sampling, handling the samples, and analyzing the data; and the personnel responsible for the data. More information on STORET database can be found at <http://www.epa.gov/STORET/>.



U.S. Environmental Protection Agency
Region 5, Superfund Division, FIELDS Team
Office of Solid Waste and Emergency Response
Office of Emergency & Remedial Response
Technical Innovation Office

present

Environmental Decision
Support Tools



Date and Location:
Illinois Institute of Technology
Stuart Graduate School of Business
Chicago, Illinois
March 5-7, 2003

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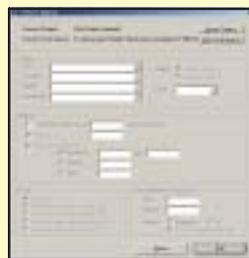
The FIELDs Team has developed a set of tools that integrate the power of geographic information systems (GIS), imaging software, global positioning system (GPS), and in-field sampling and analysis technology. The FIELDs tools are a collection of ArcView extensions and a 3D Viewer that utilize published methodology for each step in the characterization process. The FIELDs software forms the foundation for a system that provides data analysis and interpretation for environmental decision-making. The results allow project managers to evaluate the extent of contamination and hot spot sizes, estimate health risks, prioritize site goals, and weigh potential actions. Users include USEPA Regions, NOAA's coastal restoration scientists, State and Tribal agencies, as well as the private and academic community.

Sample Design



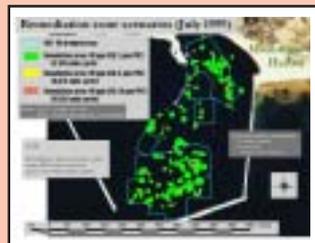
The Sampling module allows the user to create statistically based sampling plans in GIS. The module can determine how many samples should be taken and then place the sampling locations on a basemap. The latitude and longitude information can be easily exported into a GPS unit, allowing the user to immediately navigate to sampling points for data collection.

Database



The Database Module allows the user to input data from STORET, EQUIS, Query Manager, or FIELDs-defined database. The interface provides 2D and 3D queries in a format ready to use in other FIELDs modules.

Data Analysis



The FIELDs Remediation Tool calculates the area required to be removed in order to meet a site-wide clean-up goal or meet a block-based clean-up goal.

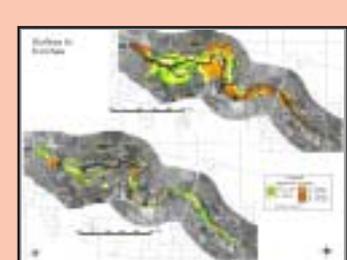


The FIELDs Mass and Volume Tool calculates the mass of contaminant in soil or sediment, and the volume of contaminated material based upon user defined intervals.

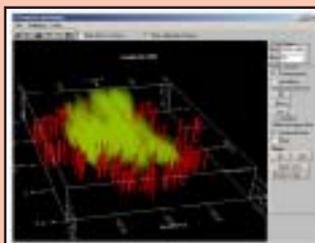
2D-Modeling



The Modeling Module allows the user to apply various interpolation methods and analysis on sample data necessary for contouring data. These methods and QA procedures include IDW, Natural Neighbor, Cross-Validation, and Error Estimation.



3D-Modeling



The 3D Tools were developed for 2D/3D data visualization and modeling. The viewer is a stand-alone application that incorporates various GIS functionalities including 2D/3D interpolations, grid clipping, volume estimation, querying, and data editing.

The FIELDs Tools Software packages are available free of charge and can be downloaded at the following sites:

<http://www.tiem.utk.edu/~fields/>
<http://www.epa.gov/region5fields/>

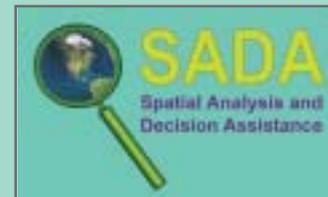
For additional information about FIELDs please contact:

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 FIELDS Manager
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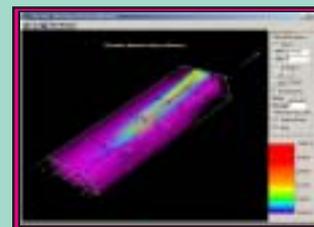
John Bing-Canar
 Bing-canar.john@epa.gov
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Contact Address: US EPA, 77 W Jackson Blvd, MS SF-5J, Chicago, IL 60604



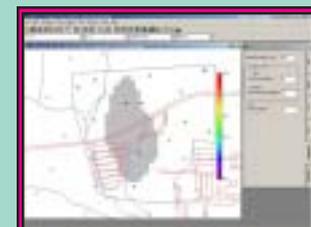
Spatial Analysis and Decision Assistance (SADA) is a software developed by the Institute for Environmental Modeling at the University of Tennessee that incorporates tools from environmental assessment fields into an effective problem-solving environment. These tools include integrated modules for visualization, data exploration, geospatial analysis, statistical analysis, human health risk assessment, ecological risk assessment, cost/benefit analysis, sampling design, and decision analysis. The capabilities of SADA can be used independently or collectively to address site specific concerns when characterizing a contaminated site, assessing risk, determining the location of future samples, and when designing remedial action. SADA is targeted to individuals performing environmental assessments in support of decision-making. SADA has a strong emphasis on the spatial distribution of contaminant data and is therefore best suited for anyone who needs to look at data within a spatial context (Statisticians, Risk Assessors, GIS Users, Project Managers, Stakeholders). More information about SADA can be found at the following site: <http://www.tiem.utk.edu/~sada/>

Visualization



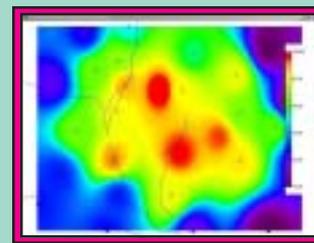
Tri-dimensional data visualization in SADA 3D Viewer

Decision Analysis

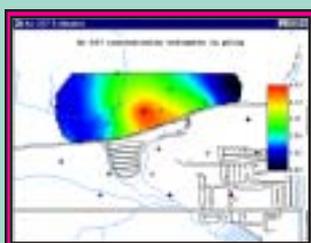


SADA estimates the location for the area of concern, for block and site scale frameworks, given a cleanup goal.

Geospatial Analysis



SADA geospatial estimator generates screening or risk results of subsets of input data.



The application of geospatial interpolators can yield maps of estimated values for a site.

For additional information about SADA please contact:

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Robert N. Stewart
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 (865) 241-5741

Contact Address: University of Tennessee, 1060 Commerce Park, Oak Ridge, TN 37831



Argonne is one of the U.S. Department of Energy's largest research centers, and the nation's first national laboratory. The University of Chicago for the U.S. Department of Energy operates Argonne.

Argonne research falls into four broad categories:

- Basic science (physics, chemistry, biology, high-energy physics, and mathematics and computer science).
- Scientific facilities (Advanced Photon Source, Intense Pulsed Neutron Source, Tandem Linear Accelerator System).
- Energy resources (advanced batteries and fuel cells, advanced electric power generation and storage systems, nuclear reactors).
- Environmental management (alternative energy systems; environmental risk and economic impact assessments; hazardous waste site analysis and remediation planning; electrometallurgical treatment to prepare spent nuclear fuel for disposal; and new technologies for decontaminating and decommissioning aging nuclear reactors).

As part of the environmental management research, Argonne has created Adaptive Sampling and Analysis Programs (ASAPs). ASAPs use real-time data collection techniques and in-field decision making to guide the progress of data collection at hazardous waste sites. ASAPs are based on dynamic work plans that specify the logic for how sampling numbers, locations, and analyses will be determined as the program proceeds. ASAPs utilize a dual approach to the sampling strategy problem. They use a graphical, object-oriented database system (*SitePlanner*), that integrates, manages, and displays site characterization data as it is being generated. ASAPs also use an interactive software package (*Plume*) that provides quantitative support for adaptive sampling programs. The software merges soft site data with hard sample results to form images of contamination location, provide quantitative measures of the potential benefits of additional sampling, and indicate the best new sampling locations. The output generated by this approach includes: graphics (maps; fence diagrams; boring logs); contaminant extent and uncertainty measures; estimates of additional sampling benefits; and best new sample locations.

For more information about Argonne National Laboratory visit the internet site <http://www.anl.gov> or contact **Robert Johnson** at Argonne National Laboratory - Environmental Assessment Division, (630) 252-7004, rjohnson@anl.gov